

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
26 May 2005 (26.05.2005)

PCT

(10) International Publication Number
WO 2005/046859 A3

(51) International Patent Classification?: **B01J 19/00,**
G01N 33/557, 33/543

(21) International Application Number:
PCT/IL2004/001043

(22) International Filing Date:
14 November 2004 (14.11.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/518,878 12 November 2003 (12.11.2003) US

(71) Applicant (for all designated States except US): **PRO-
TEOPTICS LTD.** [IL/IL]; Guthwirth Science Park, Tech-
nion City, 32000 Haifa (IL).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **NOTCOVICH,**
Ariel G. [IL/IL]; 28 Vardya Street Apt#1, 34657 Haifa
(IL). **HERSCHHORN,** Alon [IL/IL]; 12 Ofakim Street,
apt#23, 36770 Neshet (IL). **NIMRI,** Shai [IL/IL]; 30099
Kibbutz Sarid (IL). **BARICH,** John [US/US]; 2273 Ar-
cadia Court, Martinez, CA 94553 (US). **LIPSON,** Ariel
[IL/IL]; 12 Burla Steet, apt#16, 32811 Haifa (IL). **BOAZ,**

Ran [IL/IL]; 9 Ruth Street, 34404 Haifa (IL). **LIPSON,**
Doron [IL/IL]; 4 Kahanstam St., 62193 Tel Aviv (IL).
LEVIE, Yaakov [IL/IL]; Mitzpe Tzurit, P.O.Box 116,
20104 Misgav (IL).

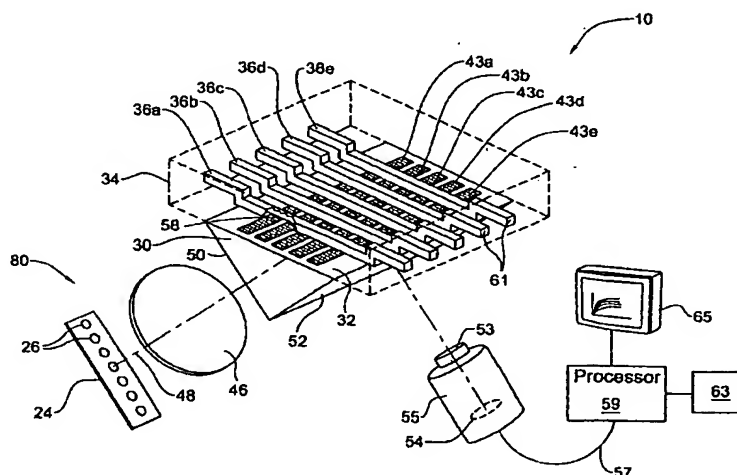
(74) Agent: **REINHOLD COHN AND PARTNERS;** P.O.Box
4060, 61040 Tel Aviv (IL).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE,
SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,
GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: SYSTEM AND METHOD FOR CARRYING OUT MULTIPLE BINDING REACTIONS IN AN ARRAY FORMAT



(57) Abstract: A method for determining one or more kinetic parameters of binding between a first binding member and a second binding member. The method comprises adsorbing the first binding member to a surface at a plurality of microspots. The second binding member is then presented to the first binding member at each of the microspots, there being a plurality of combinations of first binding member surface density and second binding member concentration among the plurality of microspots. Data indicative of a binding reaction between the first of microspots are then obtained and analyzed so as to obtain one or more kinetic parameters of the binding between the first and second binding members. The invention also provides a system for carrying out the method. A method for localizing a molecular species at microspots on a surface, and a probe array produced by the method are also provided.



Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(88) Date of publication of the international search report:

1 September 2005